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International Taxation of Electronic Commerce Income: A Proposal to Utilize Software Agents for Source-Based Taxation

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International Taxation of Electronic Commerce Income: A Proposal to Utilize Software Agents for Source-Based Taxation

Barrett Schaefer[†]

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I. INTRODUCTION

Rodriguez Marquez, in a small adobe dwelling in Peru, logged on to the Internet. He wanted an American book, one that he knew he would be unable to find in his home country of Peru. It was the latest version of Harvard Medical School's anatomy book: he needed it to study the human form, down to the most intimate detail, for a masterpiece painting he was working on that he knew would command a high price. After some searching on the World Wide Web, Rodriguez finally came to a web site called Amazon.com. This was what he was looking for! He typed in a few key words and clicked the 'search' button. Right before his eyes was a picture of the book and related information. It was expensive, but it would be worth it. Rodriguez typed in his name, address, credit card number, a few other things, and clicked the 'I accept' button on the screen. Amazon.com notified him that the book would be sent within two days. "Ah, now my painting will truly be a masterpiece!" he exclaimed to himself.

The number of commercial transactions conducted over the Internet throughout the world is not only increasing, but is expected to grow at an exponential rate.¹ While Internet commerce sales were estimated at \$200 million in 1995,² it has been predicted to swell to hundreds of billions of dollars by 2002.³

* The author acknowledges that due to the transient nature of the Internet, certain web sites may no longer be active after this article is published. Hence, web site references are on file with the Santa Clara Computer and High Technology Law Journal.

1. William C. Benjamin & Michael J. Nathanson, *Conducting Business Using the Internet: Gauging the Threat of Foreign Taxation*, 9 J. INT'L TAX'N 29, 30 (Mar. 1998).

2. President William J. Clinton & Vice President Albert Gore, Jr., *A Framework for Global Electronic Commerce* (July 1, 1997) <<http://www.iitf.nist.gov/elecomm/ecom.htm>> [hereinafter *Global Electronic Commerce*].

3. International Data Corporation has predicted there will be \$400 billion in e-commerce revenue by 2002. International Data Corporation press release, *Buyers on the Web to Increase Nearly Tenfold by 2002, According to IDC's Internet Commerce Market Model®* (Aug. 17, 1998) <<http://www.idcresearch.com/press/archive/081798apr.htm>> (citing Carol Glasheen, et al., *The Global Market Forecast for Internet Usage and Commerce*, Report No. B16569 (July 1998)) [hereinafter *Buyers on the Web*]. Ira Magaziner, President Clinton's top Internet policy advisor, has also predicted \$400 billion in global e-commerce revenue by 2002. Greg Gatlin,

This growth is worldwide,⁴ but the U.S. has grown the fastest thus far, as it boasts the most Internet hosts, the highest number of Internet connections, and the most network access and service providers.⁵ At the same time, both Internet-user growth and devices used to access the Internet are rapidly increasing, and such growth is expected to be even more dramatic outside of the U.S..⁶ Because of this growth, the number of international business transactions made over the Internet will expand as the global marketplace becomes increasingly accessible, and electronic commerce (e-commerce) will constitute a larger part of business' profits.

Business income is generally taxable somewhere.⁷ Under traditional principles of taxation, a country will normally have the jurisdiction to tax a business that makes income in that country.⁸ For income derived from international transactions, the ability to tax requires some extra steps of analysis, as jurisdiction is based upon both the residence of the company and where the sale actually takes place (also known as the 'source of income').⁹ Consequently, often two countries will be capable of taxing a business' profits from international transactions.¹⁰ This notion has existed a long time, and many of these established principles have been applied with relative ease.¹¹

E-commerce, however, strains the traditional international tax framework.¹² While tax authorities normally can ascertain the residence of a company doing business over the Internet under the current standards, determining the actual location of the sale for

There's a Revolution Underway, THE PATRIOT LEDGER 11 (1998), available at 1998 WL 8073074.

4. See *Buyers on the Web*, *supra* note 3.

5. Organization for Economic Cooperation and Development, *Electronic Commerce: Opportunities and Challenges for Government (The "Sacher Report")*, 71 (Sept. 18, 1997), <<http://www.oecd.org/dsti/sti/it/ec/act/sacher.htm>> [hereinafter *The Sacher Report*].

6. See *Buyers on the Web*, *supra* note 3.

7. Many different types of taxes exist which may be relevant to a business transaction. Among these are the value-added tax, sales tax, customs and duties, and income tax. However, this paper is limited solely to a discussion of income tax.

8. See, e.g., I.R.C. § 11 (a) (West 1998): "A tax is hereby imposed for each taxable year on the taxable income of every corporation."

9. See Benjamin & Nathanson, *supra* note 1, at 30.

10. See *id.*

11. See Lisa Peschke-Koedt, *A Practical Approach to Permanent Establishment Issues in A Multinational Enterprise*, 98 TAX NOTES INT'L 95-15, § I (B) (1) (May 1998).

12. See Dept. of the Treas., Off. of Tax Policy, *Selected Tax Policy Implications of Global Electronic Commerce*, § 7.2.3.1 (Nov. 1996) <<http://www.ustreas.gov/taxpolicy/internet.html>> [hereinafter *Selected Tax Policy Implications of Global Electronic Commerce*].

Internet transactions has become quite complex.¹³ As the U.S. Department of the Treasury has stated, "From a certain perspective, electronic commerce doesn't seem to occur in any physical location but instead takes place in the nebulous world of cyberspace."¹⁴ As a result, jurisdictional boundaries are no longer as easy to discern,¹⁵ and it is often difficult to link income to a specific location.¹⁶ Consequently it is unclear if or how e-commerce should apply to traditional standards for international transactions.

This issue has caused tax authorities to search for an easier manner in which to analyze international e-commerce transactions. The search has led academics, the U.S. Treasury and others to acknowledge, and in some circumstances recommend, a new way of thinking about these transactions.¹⁷ This trend in thought, or emerging model, has not been fully adopted, but it is seen as a trend in thought which could increasingly take effect.¹⁸ The emerging model, which would allow countries to eliminate source-based taxation in favor of residence-based taxation for international e-commerce transactions, would prevent poor countries with international e-commerce consumers to tax income made on those international e-commerce transactions.¹⁹ It is argued that less confusion would exist if only the business' country of residence had

13. See generally *id.* See also discussion *infra* Part III.

14. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, §7.2.3.1.

15. See *id.*

16. *Hearings of the Committee on Commerce Subcommittee on Communications, United States Senate* (May 1997) (statement of Lawrence H. Summers, Deputy Secretary, Department of the Treasury), (visited Nov. 3, 1998) <<http://www.ustreas.gov/press/releases/pr052297a.html>> [hereinafter *Remarks of Lawrence H. Summers*].

17. See, e.g., *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12; Kyrie E. Thorpe, Comment, *International Taxation of Electronic Commerce: Is the Internet Age Rendering the Concept of Permanent Establishment Obsolete?*, 11 EMORY INT'L L. REV. 633 (1997); Robert J. Peroni, *Back to the Future: A Path to Progressive Reform of the U.S. International Income Tax Rules*, 51 U. MIAMI L. REV. 975 (1997).

18. "[T]ransactions in cyberspace will likely accelerate the current trend to de-emphasize traditional concepts of source-based taxation, increasing the importance of residence-based taxation." *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, at Executive Summary.

19. "[R]esidence-based taxation creates an imbalance between wealthier, capital exporting countries and poorer, capital importing countries . . . [T]he treasuries of the capital exporting countries grow richer as their residents make and earn income from foreign investments." David L. Forst, *The Continuing Vitality of Source-Based Taxation in the Electronic Age*, 15 TAX NOTES INT'L, 1455, 1472 (1997). It should be noted that the country of the transaction is known in tax jargon as the 'source' country. See also *infra* note 156.

the jurisdiction to impose taxes.²⁰ Regardless of whether this is true, a residence-based tax model would have many unfortunate consequences.

The emerging model poses problems because it favors developed countries at the expense of developing countries.²¹ Under established tax principles, a country (known as the 'source' country) may impose an income tax when a foreign company, residing in the 'resident' country, profits on its soil.²² Called 'source-based taxation', this allows a source country to apply certain tax principles which may allow it to tax that profit.²³ This is important for developing countries because they tend to import much more than they export; therefore they are usually the source country.

But the current trend will cause source countries to lose this taxing ability for e-commerce transactions,²⁴ by preventing source countries from receiving income tax revenue from foreign companies' e-commerce income earned on source countries' soil. For instance, in the introductory example, under the emerging model only the U.S. would have authority to tax Amazon.com's taxable income from the transaction. As the source country, Peru would have no right to tax the income Amazon.com earned on its soil.

This paper proposes that the U.S. should not fully accept this emerging trend of thought. Instead, the U.S. should advocate and implement a relaxation in international tax principles and allow a source country to tax income derived from a web site software agent's transactions in a foreign country, just as it may with a human agent's. This will allow source countries to impose taxes on foreign companies that earn e-commerce income within their borders, and it will be consistent with the policy notion that countries should act to promote wealth enhancement in other countries, rather than act to prevent it. Further, a relaxation in such tax principles will become increasingly important as use of the Internet expands and taxable sources of income (such as human agents) decrease. In addition, by

20. See, e.g., Thorpe, *supra* note 17, at 691-92.

21. See Forst, *supra* note 19; see also Thorpe, *supra* note 17, at 671-76.

22. "The profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State . . ." Organization for Economic Cooperation and Development, *Model Tax Convention on Income and Capital*, Art. 7 (1992) [hereinafter *OECD Model Treaty*].

23. Source-based taxation may only occur if a permanent establishment is found in the source country. Permanent establishment through source of income is discussed in depth *infra* in Part IV.B.

24. See Forst, *supra* note 19, at 1472; see also *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12.

advocating and implementing this relaxation, the U.S. will be acting in its own long-term interests, since empowering other countries to grow economically would help these countries to become more substantial trading partners with the U.S.

II. BACKGROUND

A. The Internet and Its Relevant Components

While it is beyond the scope of this paper to discuss the complex intricacies of the Internet and its workings, a basic understanding of certain parts is imperative in order to comprehend the tax issues raised in this paper.

To begin, the Internet is part of the global Information Superhighway²⁵ and is not a solitary computer network or manner of communication. Rather, the Internet, as defined by the U.S. Treasury, is "a vast international network of networks that enables computers of all kinds to share services and communicate directly."²⁶

The Internet has become an important medium for business. As President Bill Clinton and Vice President Al Gore aptly explain in their now famous work entitled, "A Framework for Global Electronic Commerce":

No single force embodies our electronic transformation more than the evolving medium known as the Internet [T]he Internet has emerged as an appliance of every day life, accessible from almost every point on the planet As the Internet empowers citizens and democratizes societies, it is also changing classic business and economic paradigms. New models of commercial interaction are developing as businesses and consumers participate in the electronic marketplace and reap the resultant benefits. Entrepreneurs are able to start new businesses more easily, with smaller up-front investment requirements, by accessing the Internet's worldwide network of customers.²⁷

The Internet can be used for a multitude of purposes, including the buying and selling of merchandise or services and obtaining

25. Organization for Economic Cooperation and Development, *Electronic Commerce: The Challenges to Tax Authorities and Taxpayers* (visited Nov. 3, 1998) <<http://www.oecd.org/daf/fa/MATERIAL/TURKU18.PDF>> [hereinafter *Challenges to Tax Authorities and Taxpayers*].

26. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, at Glossary of Terms.

27. See *Global Electronic Commerce*, *supra* note 2, at Background Section.

information.²⁸ It has been estimated that by 1997, 20 percent of American households had Internet access,²⁹ and that the number was growing steadily.³⁰

1. Infrastructure of the Internet

The Internet is comprised of two main components: the physical network infrastructure and the logical network infrastructure.³¹ The physical network infrastructure refers to the actual physical parts which make up the Internet, e.g., cables, wires, computers, modems,³² whereas the logical network infrastructure “can be thought of as the laws that govern the movement of traffic down the network highways” and refers to the process by which information moves throughout the network.³³ These two structures work together to make the Internet operate.³⁴

The Internet operates as a result of electronic information being transferred from one place to another.³⁵ In order to send the information, computers break down the information into small ‘packets’ and label each packet with the same address.³⁶ The information is then sent to the destination, but each packet may take a different route.³⁷

This process requires a series of interactions between various components of the physical and logical infrastructures.³⁸ For the physical infrastructure, two important parts called routers and servers serve major functions. Routers act like post offices³⁹ in that they “spend all their time looking at the destination addresses of the packets passing through them and deciding which route to send them on.”⁴⁰ Servers, another important part, are computers that act as

28. *Id.*

29. Albertina M. Fernandez, *Business, Tax Authorities Work Toward Consensus on Electronic Commerce*, 97 TAX NOTES INT’L 223, 224 (1997) (referencing statements of Robert Barr, IRS Assistant Comm’r for Electronic Tax Administration).

30. *Id.*

31. See Thorpe, *supra* note 17, at 640.

32. Howard E. Abrams & Richard L. Doernberg, *How Electronic Commerce Works*, 14 TAX NOTES INT’L 1573, 1577-81 (1997).

33. *Id.* at 1579.

34. See Thorpe, *supra* note 17, at 640.

35. See *id.*

36. See *id.* at 641.

37. See *id.* at 641.

38. See *id.* at 640.

39. See Thorpe, *supra* note 17, at 641.

40. *Internet Literacy Consultants™ Glossary of Internet Terms*, (visited Nov. 3, 1998)

depositories⁴¹ that store "information which is available for access by users of a network, including the Internet."⁴²

The logical infrastructure is different in that it is centered not around tangible physical objects, but rather the method used to transfer the information which is being sent.⁴³ This system is called a 'domain name system,' whereby numerical destination addresses are associated with easier-to-remember address names for the user.⁴⁴ This means that instead of having to look up a series of numbers to find a site that has information about, for example, Santa Clara University, the user can merely type <http://www.scu.edu>.⁴⁵ Someone who is using the Internet and wants to contact a web site (*see infra* Part II.A.2), therefore, need not know the numerical address and need only type in the word address, which the computer will translate into the numerical address.⁴⁶

2. The World Wide Web

Most e-commerce takes place on the World Wide Web (WWW or 'the Web'), one of the fastest growing applications of the Internet.⁴⁷ A major advantage of the Web is that it enhances a company's ability to conduct business with foreigners without having to enter the country.⁴⁸ It "blends text, images, video and audio . . . [and] can contain links to other documents which can be accessed by clicking on these links. In fact, the links could be to any other WWW document on any Internet server anywhere in the world."⁴⁹

On the Web, a business will have a web site that users can access. It is here Internet users are given information about the business' products or services. Generally, a business' web site is interactive, which enables the user to learn more about what the

<<http://www.matisse.net/files/glossary.html>>.

41. See Thorpe, *supra* note 17, at 641.

42. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, at Glossary of Terms.

43. See Thorpe, *supra* note 17, at 640.

44. David R. Johnson & David Post, *Law and Borders—The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367, 1376 (1996).

45. See *id.*

46. *Id.*

47. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, § 3.1.1.

48. James D. Cigler & Susan E. Stinnett, *Treasury Seeks Cybertax Answers With Electronic Commerce Discussion Paper*, 8 J. INT'L TAX'N 56, 60 (1997).

49. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, § 3.1.1.

business is offering for sale. The user may type in questions, words or phrases about which he or she wants to learn, or may type in an item's specifications to find out whether the business has a certain good or service available. And finally, while interacting with the web site, the user may purchase something for sale. Since the Web is the most widely used Internet forum, and its accompanying web sites host the most e-commerce, it is mainly here that taxation issues have arisen.

B. Electronic Commerce

Electronic commerce

refers generally to all forms of commercial transactions involving both organisations [sic] and individuals, that are based upon the electronic processing and transmission of data, including text, sound and visual images. It also refers to the effects that the electronic exchange of commercial information may have on the institutions and processes that support and govern commercial activities.⁵⁰

The U.S. Department of the Treasury defines e-commerce as "consumer and business transactions conducted over a network, using computers and telecommunications."⁵¹

In order to understand the tax issues and surrounding policies discussed in this paper, it is important first to have at least a rudimentary understanding of certain aspects of electronic commerce. In general, these aspects are the growth of electronic commerce, the types of electronic commerce, and the electronic commerce transaction itself.

1. Growth of Electronic Commerce

As President Clinton's top Internet advisor has stated, electronic commerce will alter the world's economy on a scale akin to the Industrial Revolution.⁵² E-commerce currently is growing at an explosive rate and will become a long-term significant force for the U.S. economy.⁵³ In late 1997, it was estimated that e-commerce accounted for four percent of world trade, an amount that is predicted

50. See *The Sacher Report*, *supra* note 5, at 20.

51. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, at Glossary of Terms.

52. See Gatlin, *supra* note 3, at 11 (paraphrasing the words of Ira Magaziner).

53. See *Remarks of Lawrence H. Summers*, *supra* note 16.

to increase tenfold by 2002.⁵⁴

Electronic commerce already produces millions of dollars of revenue every day,⁵⁵ and some companies are already transacting \$1 billion every year from e-commerce.⁵⁶ E-commerce not only provides low-cost, reliable services that can take on large amounts of business, but it allows organizations to improve efficiency and accuracy while making transactions faster and more convenient for consumers.⁵⁷

2. Types of Electronic Commerce

A number of categories of on-line economic activities exist which promote e-commerce, including the sale or lease of goods, the provision of services, the provision of on-line information, advertising, gambling, and global trading.⁵⁸ Within each of these categories exists many different types of e-commerce. For instance, the provision of services could be anything from offshore banking to professional services such as health care advice.⁵⁹ This paper is concerned with all of these categories of e-commerce to the extent they involve click-on agreements between businesses and consumers.⁶⁰

Electronic commerce transactions may also be categorized according to the parties involved in the transactions. The three basic participant groups are business, government, and individuals.⁶¹ While it may come as a surprise to many individual users of the Internet, most e-commerce presently occurs between businesses.⁶² However, this trend could change, as more individuals gain access to e-commerce facilities and make more purchases online.⁶³

54. See *Buyers on the Web*, *supra* note 3.

55. See *Remarks of Lawrence H. Summers*, *supra* note 16.

56. For example, Christopher Anderson, *Survey of Electronic Commerce: In Search of the Perfect Market*, THE ECONOMIST (May 1997), 1997 WL 8136715, describes how Cisco Systems, a network-equipment maker, sells its products over the Web at the rate of \$1 billion per year.

57. See *Remarks of Lawrence H. Summers*, *supra* note 16.

58. See *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 16.

59. *Id.*

60. It should be mentioned that what is important here is how the click-on agreement and the associated transaction itself should be examined. As a result, while relevant in discussions of other types of e-commerce tax issues, the distinction between purchases of tangible and intangible goods made on-line will not be explored in this paper.

61. See *The Sacher Report*, *supra* note 5, at 20.

62. See *Buyers on the Web*, *supra* note 3.

63. See *The Sacher Report*, *supra* note 5, at 20-21. The fact that the number of individuals who purchase goods from the Web is expected to increase from 18 million in 1997 to more than 128 million in 2002 may buttress this point. See *Buyers on the Web*, *supra* note 3.

3. The Electronic Commerce Transaction⁶⁴

When a purchase is made over the Internet, it most likely takes one of two forms: either the purchase is made between an individual consumer contracting with a business' software agent (consumer-business), or between two businesses contracting together (business-business). While both types of e-commerce are increasing at explosive rates, this paper will examine consumer-business e-commerce transactions, in large part to focus on an area of e-commerce which alone should reach \$100 billion or more by the early twenty-first century.⁶⁵

Normally, an individual acting as a consumer or a potential consumer on the Internet will interact with a software agent when learning about or purchasing something on a business' web site. Generally, a software agent is a programmed agent of a principal (such as a business) that performs various programmed duties for the principal.⁶⁶ In the introductory story, Rodriguez was interacting with a software agent while visiting Amazon.com's web page. The software agent had been programmed to enable a customer to make informed decisions about a product before deciding whether or not to buy that product. The software agent furnished information, displayed pictures of various books to Rodriguez, could have given him answers to various questions he may have had, and provided various web pages containing other pertinent information. When Rodriguez decided to buy the book, the software agent then bound Amazon.com to an agreement to provide the anatomy book for the

It should be noted, however, that IDC also has published statistics that predict business-business Internet commerce will actually outpace growth of business-individual Internet commerce. See International Data Corporation, *Worldwide Internet Commerce Revenues: Business and Consumer Segments Chart, 1996-2002* <<http://www.idcresearch.com>> [hereinafter *Business and Consumer Segments Chart*].

64. For purposes of this paper, (1) it is presumed that simple computer programs can act as agents under the law of contracts by making agreements with individuals, and (2) unless otherwise specified, the term 'software agent' refers to such simple computer programs. These relatively simple programs are to be contrasted with and distinguished from the more complex learning computer programs that arguably may (or may not) act as agents. These more complex learning computer programs themselves in the context of e-commerce are subject to much scrutiny and controversy and are outside the scope of this paper. For an interesting discussion of computer agents and e-commerce, see John P. Fischer, Comment, *Computers As Agents: A Proposed Approach to Revised U.C.C. Article 2*, 72 IND. L.J. 545 (1997); see also Tom Allen & Robin Widdison, *Can Computers Make Contracts?*, 9 HARV. J.L. & TECH. 25 (1996).

65. See *Business and Consumer Segments Chart*, *supra* note 63.

66. See Fischer, *supra* note 64, at 556-57. It should be noted that while agents are not reserved for businesses only, this paper discusses them only in that context.

appropriate consideration.⁶⁷

III. INTERNATIONAL TAX PRINCIPLES AND THE GENERAL PROBLEMS WITH TAXING PROFITS DERIVED FROM INTERNATIONAL ELECTRONIC COMMERCE

A country's tax system must specify who shall be taxable and what exactly is subject to tax.⁶⁸ For most of the twentieth century, nations across the world have been in agreement about the principles which guide the taxation of international business transactions.⁶⁹ These principles, whose main ideas were developed nearly eighty years ago, are "enshrined today in over 1,000 substantially similar bilateral income tax treaties and a few internationally respected model treaties."⁷⁰ The purpose of these bilateral treaties is to set forth principles which prevent not only double taxation, but also nontaxation (also known as 'fiscal evasion').⁷¹

These generally agreed-upon tax principles have been enumerated by the developed nations of the world in the Organization for Economic Cooperation and Development (OECD) Model Income Tax Treaty.⁷² OECD is the "primary forum for cooperation in international taxation"⁷³ and utilizes scholars from countries worldwide who (among other things) revise, rewrite, and generally keep current the OECD Model Income Tax Treaty.⁷⁴ While it is considered the standard of international tax principles, the OECD Model Treaty is not used per se at the negotiating table. Instead, countries will first utilize the OECD Model Treaty as something of a template, then tailor it to meet their own needs.⁷⁵

67. Whether an individual should be bound to such an 'e-contract' is the subject of intense debate. A provision of the ever-changing proposed Article 2B would, at least for United States domestic Internet sales, specifically bind an individual to such an agreement.

68. See *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 87.

69. See Forst, *supra* note 19, at 1458.

70. *Id.*

71. See *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 91.

72. Technically, it is called the 'Model Tax Convention on Income and Capital.'

73. See *Global Electronic Commerce*, *supra* note 2, § I (1).

74. The OECD Model Treaty has been updated in 1963, 1977, and 1992, and has been amended numerous times. See Thorpe, *supra* note 17, at 656 n.102.

75. For instance, as the United States Treasury has explained, "For over thirty years the United States has actively participated in the development of the OECD Model, and the United States continues its support of that process. Accordingly, the publication of a U.S. Model does not represent a lack of support for the work of the OECD in developing and refining its Model treaty. To the contrary, the strong identity between the provisions of the OECD and U.S. Models reflects the fact that the United States drew heavily on the work of the OECD in the development of the U.S. Model." Dept. of the Treas., *United States Model Income Tax*

Before the confusion caused by e-commerce, many of these well-established tax principles caused relatively little uncertainty for tax authorities.⁷⁶ For instance, in order to determine whether source-based taxation was applicable, tax authorities normally could be relatively certain as to whether a foreign business transaction was conducted from a fixed place of business.⁷⁷ However, with Internet e-commerce, it is difficult to identify a fixed place of business,⁷⁸ so the traditional tax notions are difficult to apply.⁷⁹ By offering goods or services over the Internet, the business effectively exists everywhere,⁸⁰ and it is difficult for a tax authority to impose taxes based upon a group of wires or a computer as a location for tax purposes, especially when this location can be immaterial to the transaction.⁸¹ To further complicate an understanding of location and e-commerce, the manner in which information is transmitted over the Internet not only is relatively unpredictable, but “[u]sers of the Internet have no control and in general no idea of the path traveled by the information they seek or publish.”⁸²

IV. APPLICATION OF ELECTRONIC COMMERCE TO THE TAX FRAMEWORK

The traditional model for international taxation of global commerce is based upon the concepts of (1) residence of the taxpayer and (2) source of income.⁸³ Since the OECD Model Income Treaty and its relevant provisions enumerate these foundations of international tax law and are used as a template for most international tax treaties, the relevant parts of the OECD Treaty will be used in an

Convention of September 20, 1996, Technical Explanation, Title And Preamble, (1996), <<http://www.ustreas.gov/taxpolicy/t0txmod2.html>>. It should be noted, however, that while the U.S. Model Treaty itself does draw ‘heavily’ from the OECD Model Treaty, the U.S. Model Treaty commentary tends to emphasize residence-based principles. The U.S. Model Income Tax Convention (‘U.S. Model Income Tax Treaty’) is available at <<http://www.ustreas.gov/taxpolicy/index/html>>.

76. See, e.g., Peschcke-Koedt, *supra* note 11, §§ I(B)(1), II(C).

77. See *infra* Part IV.B.

78. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, § 7.2.3.1. Please take note at this point that under general tax principles, a ‘fixed place of business’ is different from the residence of an enterprise. These terms will be discussed in more detail *infra* in Part IV.B.

79. See Peschcke-Koedt, *supra* note 11, § II(C).

80. See *id.*

81. See *id.*

82. See *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 12.

83. See *OECD Model Treaty*, *supra* note 22, at Art. 5.

analysis of these global tax concepts.⁸⁴

A. Residence of the Taxpayer Under the OECD Model Income Tax Treaty

Determining the residence of a taxpayer generally is a straightforward matter because a country of residence essentially is the geographic location where a taxpayer has the closest personal links.⁸⁵ According to the OECD Model Income Treaty, a resident country is where one has "domicile, residence, place of management or any other criterion of a similar nature," and if "he has a permanent home . . . in [two or more] States, he shall be deemed to be a resident of the State with which his personal and economic relations are closer (centre of vital interests)."⁸⁶ Once the enterprise's residence is determined, then that country of residence may impose taxes upon its income. For instance, in the introductory hypothetical, Amazon.com's country of residence was the U.S.. The U.S. could therefore impose taxes upon Amazon.com's income. This determination is normally done with relative certainty, since "almost all taxpayers are resident somewhere."⁸⁷ However, in contrast to the relative simplicity in finding a country of residence, many uncertainties and difficulties arise when determining whether a source country may impose tax upon the company for a cyberspace transaction (*see infra* Part IV.B).⁸⁸

B. Source of Income (Source-Based Taxation) Under the OECD Model Income Tax Treaty

A country also may impose taxes on income derived from international commerce through source-based taxation.⁸⁹ In general, the source of income is where the economic activity creating the

84. It should be noted that the United Nations Model Treaty also is and has been used as a template for various bilateral treaties. However, the OECD Model Treaty is much more popular, as it is used more often by many more countries. Hence, this paper shall focus on the OECD Model Treaty and its accompanying commentary for discussion and analysis of international tax principles.

85. *See Selected Tax Policy Implications of Global Electronic Commerce, supra* note 12, § 7.1.5.

86. *See OECD Model Treaty, supra* note 22, at Art. 4.

87. *See Selected Tax Policy Implications of Global Electronic Commerce, supra* note 12, § 7.1.5.

88. *Id.*

89. Source-based taxation is based upon the finding of a permanent establishment. *See* discussion *infra* Part IV.B.

income occurs,⁹⁰ and source-based taxation means that a country may impose a tax on a non-resident company if that company has derived income within the country's borders.⁹¹ Such a company, then, may be subject to taxation of income in both its own country (the resident country) and the foreign country from which the income was derived (the source country).⁹² In order to avoid double taxation, the resident country typically provides a tax credit or tax exemption to the business.⁹³

A taxing authority may impose source of income taxation only if it finds that a permanent establishment exists within the country.⁹⁴ It is necessary to have a permanent establishment before being taxed in a foreign country because, as the OECD Model Treaty commentary (Treaty Commentary) explains, a business should first participate economically to an extent in that country:

[U]ntil an enterprise of one State sets up a permanent establishment in another State it should not properly be regarded as participating in the economic life of that other State to such an extent that it comes within the jurisdiction of that other State's taxing rights.⁹⁵

Article 5 of the OECD Model Treaty provides two different manners in which a business can have enough economic ties to cause a permanent establishment to exist: through either a 'fixed place of business' or through a finding that the business has derived its income with a dependent agent within the country.⁹⁶

1. Permanent Establishment by Fixed Place of Business

Under the 'fixed place of business' test, a permanent establishment exists only if three basic elements are met:

(a) a 'place of business' must exist (this includes a facility with a

90. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, § 7.1.5.

91. See Benjamin & Nathanson, *supra* note 1, at 30.

92. *Id.*

93. The tax credit/exemption systems are accepted as general principles of international tax law, and most countries utilize a combination of these two systems for taxation. See, e.g., *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 89.

94. "The profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State through a permanent establishment situated therein." *OECD Model Treaty*, *supra* note 22, at Art. 7.

95. Organization for Economic Cooperation and Development, *OECD Model Treaty Commentary*, at commentary to Art. 7(1), ¶ 3 [hereinafter *OECD Model Treaty Commentary*].

96. See *OECD Model Treaty*, *supra* note 22, at Art. 5.

premises, or in some cases machinery);

(b) the place of business is 'fixed' such that it is established at a distinct place with a certain degree of permanence; and

(c) there is a 'carrying on' of the business of the enterprise at this fixed place of business.⁹⁷

In the traditional non-e-commerce context, these three elements are relatively straightforward to apply.⁹⁸ But e-commerce does not fit so easily into the traditional framework of the OECD Model Treaty.⁹⁹ The locations relevant to e-commerce which potentially apply to these rules are the server, the web page, and to a lesser extent telecommunications devices (such as cable) and computer terminals.¹⁰⁰ These components have raised innumerable questions and have caused a great deal of uncertainty.

In a non-e-commerce context, the first element of a 'place of business' normally can be applied with the most amount of certainty. Most companies that conduct business in foreign countries have some sort of facility or premises in those countries which act to benefit the company. The OECD Model Income Treaty and accompanying commentary spell out what constitutes a place of business.¹⁰¹ For instance, even a company with a transitory nature can be found to have a place of business—even "a pitch in a market place" constitutes a place of business.¹⁰² Further, personnel need not be present on a daily, weekly, or even monthly basis for a place of business to exist.¹⁰³ The rules are broad enough to even include vending and gaming machines as places of business, so long as they are maintained by company personnel or an agent.¹⁰⁴

For e-commerce, however, tax authorities have not readily concluded where the place of business exists.¹⁰⁵ Since the Internet is

97. *Id.*

98. See Peschcke-Koedt, *supra* note 11, § I(B)(1).

99. See, e.g., *id.* § II(C).

100. See generally Thorpe, *supra* note 17, at 655-67.

101. See *OECD Model Treaty*, *supra* note 22, at Art. 5; *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5.

102. See *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶ 4.

103. Without much further guidance, the Treaty Commentary states that operations must be carried out on a regular basis for a place of business to constitute a permanent establishment. See *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶ 7; see also *id.* ¶ 10. Note also that these operations do not even need to be productive in character and they do not have to contribute to the profits of the enterprise to qualify as a place of business. *Id.* ¶ 3.

104. See *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶ 10.

105. See, e.g., Forst, *supra* note 19, at 1467.

not in one location, but rather is a noncentralized network with many different component parts, tax authorities have difficulty pinpointing which part to specifically examine for tax purposes. One potential location is the server that stores information contained on a business' web site.¹⁰⁶ Servers have been compared to such machinery as vending or gaming machines, which can be considered places of business.¹⁰⁷ However, vending and gaming machines are different because they necessarily reside in the country of the transaction while a server can be located virtually anywhere. Another problem with a server determining the place of business is that "a number of mirror web sites on different servers located in different countries [could] be used so that a customer could be directed to any site for any function depending on electronic traffic."¹⁰⁸ The issue becomes even more uncertain if the business leases its web site and server from a service provider or if it shares various server functions with the service provider.¹⁰⁹ As a result, it is highly inadvisable to declare that a server's geographic location qualifies as a place of business.

The web site itself is another potential way to find a place of business,¹¹⁰ but it remains uncertain whether this could satisfy the requirement either. A place of business may exist if a facility or installation is found.¹¹¹ An installation might exist if at least part of the web site software were actually installed within the user's computer, such as the software used by America Online. Also, if the computer were deemed a facility, a web site situated in the user's computer would include both installed software and web sites in a computer. If so deemed, this would also follow another principle that a place of business may exist regardless of whether it is owned or rented by the enterprise.¹¹² However, even if a web site is installed or exists in a facility, a web site still may not be able to satisfy this requirement. Anything which is "maintained solely for the purposes

106. See, e.g., *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 97.

107. See, e.g., Benjamin & Nathanson, *supra* note 1, at 31; Peter A. Glicklich, et al., *Internet Sales Pose International Tax Challenges*, 84 J. TAX'N 325, 326-27 (1996).

108. See *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 97.

109. *Id.*

110. *Id.* ¶ 96.

111. "The term 'place of business' covers any premises, facilities or installations used for carrying on the business of the enterprise whether or not they are used exclusively for that purpose. A place of business may also exist where no premises are available or required for carrying on the business of the enterprise. . . ." *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶ 4.

112. "It is immaterial whether the premises, facilities or installations are owned or rented by or are otherwise at the disposal of the enterprise." *Id.*

of storage, display or delivery of goods" does not qualify as a permanent establishment,¹¹³ and a web site may or may not be maintained for at least one of these purposes.¹¹⁴ Determining which specific web sites might or might not satisfy this exemption could lead to further uncertainty and unpredictability. Consequently, uncertainty remains with regards to whether a web site should (or could) be considered a place of business for purposes of the fixed place of business test.

Like the first element, the second element, whether a place of business is fixed, produces relatively certain results in a non-e-commerce forum. The OECD Model Treaty commentary provides that the place of business must be situated with a certain degree of permanence at a distinct place.¹¹⁵ This degree of permanence has been interpreted in many countries to be a duration of six months.¹¹⁶ Again, in the traditional sense most enterprises with businesses in foreign countries have readily identifiable fixed places of businesses in those countries, usually in the forms of offices, factories, or vending or gaming machines.

But like the first requirement, one strains to apply the components of e-commerce to established tax rules. To begin, servers raise an array of problems. With a server, the second element's purpose is not served because a server's 'fixedness' is immaterial.¹¹⁷ No rational relation exists between whether a server is fixed in a country and a server's ability to conduct business in that country. A server could be "located on a portable computer used in different places within [a] building or moved from city to city by an itinerant employee"¹¹⁸ and perform its function perfectly. It could even be in a hot air balloon, or in a boat in international waters.¹¹⁹ Moreover, in order to avoid having a fixed place, a business could easily move its web site information from one server to another.¹²⁰ And this could be

113. "The term 'permanent establishment' shall be deemed not to include: (a) the use of facilities solely for the purpose of storage, display or delivery of goods or merchandise belonging to the enterprise." *OECD Model Treaty*, *supra* note 22, at Art. 5 § 4(a).

114. For example, a web site that provides access to a database could be deemed to exist for the purpose of storage.

115. *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶ 4.

116. Aarvid Aage Skaar, *Skaar Discusses Permanent Establishment Concept*, 97 TAX ANALYSTS, WORLDWIDE TAX DAILY, 230-13 ¶ 29 (Dec. 1997).

117. See, e.g., Forst, *supra* note 19, at 1470.

118. See *Challenges to Tax Authorities and Taxpayers*, *supra* note 25, ¶ 97.

119. Interview with Ruth Davis, Professor of Computer Engineering, Santa Clara University, in Santa Clara, Cal. (Oct. 9, 1998) [on file with the author].

120. See Forst, *supra* note 19, at 1470.

done innumerable times a year, as moving a web site from one server to another can be done within an hour.¹²¹ Furthermore, as mentioned above, a place such as a warehouse used for storage, display, or delivery of goods does not constitute a permanent establishment,¹²² and if a server just stores and delivers information, it could be considered an electronic warehouse.¹²³ As a result, it seems highly unlikely a server could be 'fixed' within the meaning of the second element.

While entailing a simpler analysis, web sites are also likely to fail the 'fixed' requirement. A web site may only be on a computer screen for a number of seconds or minutes before a transaction takes place, which is at odds with the OECD requirement that the fixed place be 'permanent'. Further, whether the web site could be 'fixed' where it is maintained depends upon how the maintenance is characterized—if for storage, display or delivery, it does not qualify.¹²⁴ This, coupled with the fact that web sites are not tangible like traditional fixed places, makes it highly unlikely that web sites could be considered fixed either.

The third element necessary to find a permanent establishment requires a 'carrying on' of the business at this fixed place of business.¹²⁵ The OECD Model Treaty commentary sets quite broad guidelines for this, as it states that a 'carrying on' need not even involve humans or decision-making.¹²⁶ This means that computers and machines alone can carry on a business activity, as long as genuine business activity such as operation or maintenance is conducted.¹²⁷ A server would likely fail this third element because although operation or maintenance is conducted, it is dependent on the web site for e-commerce; a server cannot 'carry on' business on its own.¹²⁸ Web sites, on the other hand, likely fulfill this element. Notwithstanding the problems of actually locating the situs of the web site itself, the web site is most likely operated or maintained, and it exists to conduct business activity. This is not unlike gaming or

121. See Thorpe, *supra* note 17, at 661-62.

122. See *OECD Model Treaty*, *supra* note 22, at Art. 5 § 4(a).

123. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, § 7.2.4. In fact, "some very large-scale servers are colloquially referred to as data warehouses." *Id.* at 40 n.59.

124. See *supra* text accompanying note 113.

125. See *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5.

126. *Id.*

127. *Id.*

128. See Thorpe, *supra* note 17, at 662.

vending machines, which also fulfill this requirement for the same reasons—to conduct business activity.

In conclusion, neither servers nor web sites can reasonably qualify as a fixed place of business, as neither clearly fulfill all three requirements. A server does not fit well into any of the three requirements, and while a web site may in fact 'carry on' a business activity, problems still remain because a place of business remains unclear, and it does not stay fixed for a sufficient period of time.

2. Permanent Establishment by Agency

The second manner in which a permanent establishment may be found, as described in Article 5 of the OECD Model Income Treaty, is if the company has an agent in a source country. The Treaty says that a permanent establishment by agency may be found where:

- (1) a dependent agent
- (2) acts on behalf of an enterprise in a foreign State and
- (3) has an authority to conclude contracts in that foreign state in the name of that enterprise, and
- (4) habitually exercises such authority.¹²⁹

These elements are traditionally applied to salespersons who may or may not make trips in and out of a source country.¹³⁰ Salespersons must fulfill these elements in order for a source country to deem taxable the income from their dealings. Similarly (and in the absence of any contrary court ruling), it appears software agents too should be subjected to the same requirements since they perform substantially the same tasks as human agents, even though OECD's pre-software agent rule still refers to an agent as a 'person.'¹³¹

The first issue when examining software agents and permanent establishment is the location of the software agent when it conducts its business. Since a software agent is a software program that operates on the web site, the location of the web site is relevant to this analysis. As discussed earlier (*see* facility-installation discussion *supra* Part IV.B.1) at least for purposes of finding a permanent

129. See *OECD Model Treaty*, *supra* note 22, at Art. 5(5). It should be noted that while the substance of these elements is the same as the relevant part of the Treaty, the Treaty itself does not enumerate the agency requirements in such a fashion.

130. See generally Skaar, *supra* note 116, at Part I, § 4.

131. See *OECD Model Treaty*, *supra* note 22, at Art. 5(5). This paper will assume this is the case.

establishment with the fixed place of business test, it is unclear where exactly a web site might dwell. Whether or not the requirements of the 'fixed place of business' test should be mixed into an agency analysis, uncertainty remains regarding where the software agent should exist.

The software agent could be in a number of locations, including the source, resident, or a third country. But none of these locations analogizes well to items which exist within the traditional framework. If located in the source country, the software agent could very well be at the point of sale and might be akin to a traveling salesperson who consummates business transactions within the source country. However, while the software agent performs substantially the same activity, the analogy is not perfect in large part because of a lack of economic ties with the source country.¹³² Placing software agents within the resident country for tax purposes would be somewhat akin to human agents in the resident country who speak with foreign customers by telephone. This analogy may not be perfect either, since unlike such a human agent, in a software agent transaction the consumer presumably initiates the deal and the consumer might be considered to be dealing in a face-to-face interaction (which would be more like a source-country agent interaction)—not to mention the fact that quality visual information (such as color pictures or video) can be provided. It should also be noted that software agents deemed to exist on servers would be quite problematic in the tax context also, not because they do not analogize well, but simply because their location is difficult to discern: a web site (and its software agent) may be located on different servers in different tax jurisdictions.¹³³

Consequently, it is simply unclear where a software agent may be deemed to exist, and it may in fact not exist anywhere, at least in the conventional tax sense. As a result, in order to facilitate a discussion of agency principles and software agents, as well as to reach the policy concerns raised later in this paper, this paper shall presume the web page and its software agent exist at the point of sale within the user's computer and on the user's computer screen.¹³⁴

132. See *infra* Part IV.B.3.

133. See *supra* Part IV.B.1.

134. It should be noted that this presumption is not necessarily inconsistent with the 'fixed place of business' test facility-installation discussion mentioned *supra* Part IV.B.1. Of course, whether such a presumption should be made is not entirely automatic, and tax authorities may eventually examine the fixed place of business requirements for permanent establishment in order to make a determination. However, this may be decided against, as the two types of permanent establishment traditionally have been kept separate (as there has been no real need to

The first element for finding a permanent establishment by agency normally is determined when ascertaining the scope of the agent's job. Essentially, to fulfill this requirement the agent cannot both be self-employed and perform similar activities for more than one business.¹³⁵ This is relatively straightforward as applied to software agents, since the software agent likely would not be self-employed elsewhere and would not perform similar activities for other businesses. As a result, software agents would likely fulfill this first element.

The second element, whether the agent acts on behalf of the enterprise, can be difficult to ascertain in the traditional context.¹³⁶ The main question here is whether the agent is "acting for the benefit of the principal."¹³⁷ Determining whether a software agent complies with this requirement is a relatively easy task because a software agent is specifically programmed to act for the benefit of the principal.¹³⁸ Accordingly, it can be presumed that by carrying out the directions of the principal via a program, the agent acts for the benefit of the principal. But the unclear issue for this second element is whether the software agent is in a foreign state when it conducts its business. Since a software agent is a software program that operates on the web site, the location of the web site is relevant to this analysis. As discussed earlier (*see* facility-installation discussion *supra* Part IV.B.1) at least for purposes of finding a permanent establishment with the fixed place of business test, it is unclear where exactly a web site might dwell. This is also true for software agents.

If a software agent is deemed to exist at the point of sale, then the third element can be fulfilled. The primary question for the third element is whether the agent "is acting as intended or reasonably expected by the principal."¹³⁹ Computer agents are more easily applied than human agents to this element because they are specifically programmed to act in a certain manner, so presumably they act as the principal intends or reasonably expects them to act.

The fourth element, whether the agent habitually exercises its

mix them), and an argument could be made that they should continue to be kept separate.

135. *See OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶ 37.

136. *See Thorpe*, *supra* note 17, at 665.

137. *See Peschcke-Koedt*, *supra* note 11, § I(B)(2)(b).

138. It should be noted that this requirement becomes less certain, however, when the software agent is capable of learning from its experiences and acts with the newly-gained knowledge. *See generally* Allen & Widdison, *supra* note 64.

139. *See Peschcke-Koedt*, *supra* note 11, § I(B)(2)(c).

authority, is primarily a requirement of regularity or frequency¹⁴⁰ and excludes incidental or sporadic acts.¹⁴¹ This element has been more clearly defined by case law.¹⁴² In any event, a computer agent should be held to the same standards as a human agent for this element, as their functions/jobs are substantially identical, and as such the software agent should fulfill this element in the same way as a human agent.

In conclusion, it appears that under the normal permanent establishment agent analysis, the first, third, and fourth elements are fulfilled relatively easily. The second element is more uncertain, however, since it is unclear exactly where a software agent may be deemed to conduct its business. If a software agent is deemed to exist on the user's screen, though, the software agent would likely qualify as an agent under established tax principles.

3. Quasi-Requirement—Participating in the Economic Life of the Country

In addition to the requirements necessary for a finding of permanent establishment, the OECD commentary mentions one more important concept. The commentary states that in order to have a permanent establishment in a foreign country, a business must “participat[e] in the economic life” of that country.¹⁴³ Software agents likely do not satisfy the current standards of this quasi- requirement. If the agency elements are met, it could be argued that the business does involve itself in the country's economy because the software agent is interacting with the consumer and can make a sale—if a deal is made, money will be changing hands. Under this argument, the business arguably is concerned to an extent about the country in which the deal is made: it would be concerned, for example, about the political stability or economic conditions of the user's country, as it could affect the business' ability to ‘complete the deal’ by either delivering the product (or providing the service or otherwise) or by affecting its ability to collect payment. However, this perspective stretches the notion of ‘economic ties,’ which traditionally is thought of as involving more than just business deals themselves.¹⁴⁴ Under current international tax rules, a human agent participating in

140. See Skaar, *supra* note 116, at 4.3.2, ¶ 70.

141. See Peschcke-Koedt, *supra* note 11, § I(B)(2)(d).

142. See, e.g., Skaar, *supra* note 116, at 4.3.2, ¶ 71.

143. See *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 7(1), ¶ 3.

144. See, e.g., *id.*

telephone calls to a foreign country does not give the agent's company enough economic ties for a permanent establishment in that country.¹⁴⁵ Consequently, it appears that absent a clear showing of stronger economic ties, under the present international tax framework software agents do not meet this quasi-requirement.

4. The Resultant Trend in Thought Towards Residence-Based Taxation

In order for a tax system's framework to operate successfully and predictably, "rules that provide certainty and prevent double taxation are required."¹⁴⁶ As shown in the above discussion of permanent establishment, the rules as applied to e-commerce clearly produce uncertainty, and determining which country or countries have the jurisdiction to tax e-commerce income has become a major issue.¹⁴⁷ As the U.S. Department of Treasury has stated, "In the world of cyberspace, it is often difficult, if not impossible, to apply traditional source concepts to link an item of income with a specific geographical location."¹⁴⁸

This uncertainty has resulted in academics and tax authorities searching for rules that provide predictability when examining global e-commerce income. It now appears that for e-commerce taxation, as the Department of Treasury has explained, "transactions in cyberspace will likely accelerate the current trend to de-emphasize traditional concepts of source-based taxation, increasing the importance of residence-based taxation."¹⁴⁹ Numerous academic papers have accepted, supported and/or recommended this idea of a residence-based system for global electronic commerce.¹⁵⁰ With pure residence-based taxation, the only core issue for tax authorities would be to determine the country in which a company resides, a much simpler task.¹⁵¹ It is argued that much less confusion would exist because no longer would there be danger of double taxation, as only

145. This is mainly because such calls cannot fulfill the elements of a fixed place of business. See *OECD Model Treaty Commentary*, *supra* note 95, at commentary to Art. 5, ¶¶ 4-6.

146. See *Selected Tax Policy Implications of Global Electronic Commerce*, *supra* note 12, at Executive Summary.

147. *Id.*

148. *Id.* § 7.1.5.

149. *Id.* at Executive Summary.

150. See, e.g., Thorpe, *supra* note 17; Peroni, *supra* note 17.

151. See *supra* note 87 and accompanying text.

the business' country of residence would have the jurisdiction to impose income taxes.

V. THE PROBLEM: DEVELOPING COUNTRIES TO BE LEFT BEHIND

Developing countries by and large are capital-importing countries.¹⁵² For a developing nation, this means its citizens and companies tend to buy from foreign countries more than foreign countries buy from its citizens and companies.¹⁵³ While the size of these export-import trade deficits vary from year to year and from country to country, such deficits nevertheless overwhelmingly exist for developing countries.¹⁵⁴ With source-based taxation, a developing country may benefit when foreign companies profit on its soil because it can apply permanent establishment principles and tax that profit.

Residence-based taxation, on the other hand, creates an imbalance between wealthier, developed countries (which tend to be capital exporting) and poorer developing countries.¹⁵⁵ If source income made from e-commerce were excluded from taxation, developing nations would be put at a disadvantage. Instead of being able to tax income from foreign companies that do business within their borders, these developing (source) countries instead would have to watch all their international e-commerce tax revenue instead go directly to the country of residence.

The U.S. is the world's universal leader in electronic commerce.¹⁵⁶ In fact, as of July 1997, an estimated 90 percent of the world's commercial web sites were operated by U.S. persons.¹⁵⁷ While companies worldwide will try to cash in on the Internet, the U.S. will continue to dominate it. U.S. companies led the world by investing \$124 billion in 1998 in Internet-related activities, which included marketing and sales, content creation, professional services, and education and training to support Internet technology

152. See Thorpe, *supra* note 17, at 671.

153. To illustrate, Peru's 1996 export-import figures were \$ 5.8 billion and \$ 7.9 billion, respectively, and Turkey's 1995 export-import figures were \$ 21.6 billion and \$ 35.7 billion, respectively. U.S. Department of Commerce, International Trade Administration, Office of Trade & Economic Analysis (visited Nov. 3, 1998) <<http://www.ita.doc.gov/industry/otea/ref-room.html>>.

154. See *id.*

155. Forst, *supra* note 19, at 1472. "Under a residence-based taxing regime . . . the treasuries of capital importing countries remain poor since these countries cannot collect tax revenue from foreign investment." *Id.*

156. See *id.* at 1458.

157. *U.S. Could Gain Income if Current Policies Apply to Electronic Commerce*, Attorneys Say, TRANSFER PRICING REPORT, at 178 (July 1997).

applications.¹⁵⁸ Even Western Europe, potentially the largest competitor of the U.S., only invested about one-third as much during the same time period.¹⁵⁹

With this type of control of and investment in the Internet, the U.S. will be in a position to profit greatly. This is especially true since the number of Web consumers is predicted to increase from 18 million in 1997 to over 128 million in 2002.¹⁶⁰ Furthermore, the growth of users of the Internet and devices used to access the Internet in non-U.S. regions "will be even more dramatic than growth within the U.S." over the same period, and by 2002, 40 percent of users will buy goods or services while on the Web.¹⁶¹ Consequently, the U.S. will likely be the largest beneficiary of these Internet revenues, especially if residence-based tax rules are in effect for e-commerce transactions. Unfortunately, if such a rule did take effect, some of the U.S.' gain in large part would be at the expense of developing nations.¹⁶²

VI. PROPOSAL: UTILIZE SOFTWARE AGENTS FOR SOURCE-BASED TAXATION

Developing and other countries stand to lose tax revenue if and when source countries are deemed unable to collect income from e-commerce transactions involving foreign companies.¹⁶³ This loss will likely increase as time goes on, because "[a]s access to the Internet becomes more universal and capacity grows, the need for [companies] to have an authorized human agent will become increasingly less

158. International Data Corporation, *U.S. Return on Investment in the Internet Economy to be Realized by 2000*, press release (Sept. 1998), available at <<http://www.idcresearch.com>> [on file with Santa Clara Computer and High Technology Journal].

159. *Id.* In 1998, Western European companies invested about \$44 billion in these Internet-related activities. *Id.*

160. *See Buyers on the Web*, *supra* note 3. The report, based on more than 40,000 primary research interviews made in 17 countries, also states that the number of devices used to access the Web will increase from 78.1 million to more than 500 million from 1997 to 2002.

161. *Id.*

162. Not to mention the U.S. would perhaps also benefit at the expense of other developed nations, but this is not within the scope of this paper.

163. Unfortunately, perhaps due to the newness of the medium, governments generally do not have much, if any, public information regarding e-commerce tax revenue for their countries (especially developing countries' governments). Presumably, as the Internet and e-commerce become more widely utilized, governments will begin handling and publishing such data. Current estimates of such information, if in existence at all, would be found in studies conducted by companies such as International Data Corporation, which then hold the studies and sell them for thousands of dollars each.

important.”¹⁶⁴ As a result, the U.S., as the undisputed leader in electronic commerce, should take the lead and relax its permanent establishment policies by allowing permanent establishments for software agents in consumer-business transactions. This will allow developing source countries to impose an income tax on foreign countries that make e-commerce income within their borders.¹⁶⁵

The goal of tax authorities is to create a predictable tax system, and as such, the true purpose behind the current trend is to eradicate the uncertainty and unpredictability of applying e-commerce to the current international tax framework. This paper’s proposal is in line with this goal; moreover, the proposal is more just to the nations worldwide than the current trend to move to a system based solely on residence. This paper’s proposal should be implemented notwithstanding the arguable problem of the lack of economic ties a software agent has with a source country. This is because the need to allow source countries to tax income they otherwise will lose in increasing amounts to developed countries (and mostly the U.S.) outweighs a need to meet the current standard for economic ties.

Utilizing software agents for source-based taxation should not necessarily be done permanently. Rather, it initially should be done for a limited time—until the end of 2002, for instance—during which the Internet and e-commerce emerge from these important and significant stages of infancy and which a further global consensus regarding e-commerce taxation can occur. This relaxation will allow foreign countries to benefit from the new medium, to grow economically from it, and to better adapt to this new forum of business.¹⁶⁶ Further, the U.S., while giving up some short-term revenue, would be investing in these countries and could benefit in the long run. Also, if so deemed, the policy could be extended further into the future.

The exact manner and extent to which the Internet and e-commerce will grow is not fully known or understood. The U.S. and countries around the globe do know, however, that e-commerce has been playing an increasing role in the global economy and that its

164. Phillip L. Mann et. al., *ABA Members Comment on Model Treaty Technical Explanation*, 98 TAX NOTES TODAY 79-39, Doc. 98-12894, ¶ 40 (Apr. 1998).

165. Determining the source country in such a transaction can be done by identifying the Internet service provider with which the user has connected. As one CompuServe employee stated, “Outside of the U.S., there is a very high correlation between the country of the user and the country that supplies Internet service.”

166. Recall that other countries are much slower on the uptake with use of the Internet and associated e-commerce. See *supra* notes 156-159 and accompanying text.

future economic impact will far overshadow its impact thus far.¹⁶⁷

Taxation of this global marketplace will play an important part not only in the dynamics of e-commerce growth, but also the economic growth of countries around the world. But unjust e-commerce income tax policies will act to stifle the worldwide economic growth caused by e-commerce. If only a few countries collect income tax revenue from the Internet, then such e-commerce revenue will directly promote economic growth only in these countries—other countries that participate will be unable to benefit by these means. A plan more in line with this goal of widespread economic growth would allow both resident and source countries to benefit from e-commerce. Such a strategy would promote much more widespread global wealth and help to lessen the rate of the widening economic gap between the have and the have-not countries.

While yielding some tax revenue in the short run for the sake of worldwide economic growth, the U.S. will potentially benefit in the long run. Allowing capital importing, developing source countries to tax foreign e-commerce income will promote social and economic growth in those developing countries, potentially leading them to be stronger and more substantial future trading partners with the U.S. Such a move will also help the U.S. to foster relations with these and other countries.

The White House stated in *A Framework for Global Electronic Commerce*, that the taxation of Internet sales should “neither distort nor hinder commerce.”¹⁶⁸ Ira Magaziner, author of the White House paper, also has publicly spoken about e-commerce, stating that “[t]he most important principle is to make sure our concerns do not stifle its growth potential.”¹⁶⁹ Congress has echoed this point of view and consequently has passed legislation which strongly disfavors unfair taxation of e-commerce.¹⁷⁰ Therefore, the proposal in this paper is strongly aligned with the wishes of Congress and the White House,

167. As mentioned above, the impact of this new medium on the world has been compared to the impact of the Industrial Revolution. See *supra* text accompanying note 52.

168. *Global Electronic Commerce*, *supra* note 2, § I(1).

169. Bill Goodwin, *U.S. and Europe Mend Internet Trade Fences*, COMPUTER WKLY., Sept. 17, 1998, at 6.

170. Congress' Internet Tax Freedom Act, enacted October 21, 1998, places a three-year moratorium on “multiple or discriminatory taxes on electronic commerce.” Congress, INTERNET TAX FREEDOM ACT, Title XI—*Moratorium on Certain Taxes*, § 1101(a)(2). It also disallows taxation of Internet access and includes numerous exceptions and clarifications. While this Act contemplates ‘discriminatory’ in terms of keeping tax authorities from singling out e-commerce by imposing extra taxes, the point remains that the purpose behind the Act is to prevent tax authorities from stifling e-commerce growth.

while the emerging model arguably strays from these objectives. Permitting software agents to qualify as permanent establishments, on the other hand, will be much more in line with their aims, as it will enable e-commerce to grow more healthily. For instance, a developing country that benefits from taxing e-commerce income should have a strengthened economy and enhanced social growth that otherwise may take much longer to occur. This growth should lend itself to stronger future participation by that country in the Internet and e-commerce.

This proposal does not discriminate against or hinder electronic commerce. Rather, it will help the Internet and e-commerce to grow dynamically and in a fashion that provides developing governments tax revenue that they, with a resident-based tax policy for e-commerce, will be unable to collect. A resident-based tax policy for e-commerce is a tax policy that discriminates against healthful growth of both e-commerce and the economic and social growth of developing countries.

VII. CONCLUSION

The use of the Internet is expanding at an incredibly rapid pace throughout the world. Accompanying the remarkable growth of the Internet is the incredible growth of the Internet marketplace, which shall soon reach revenues of hundreds of billions of dollars, with approximately \$100 billion predicted to be made in consumer-business transactions by 2002.¹⁷¹

Tax authorities are currently unsure how to tax income made on the Internet, because the Internet does not easily fit into the existing general international tax framework. As a result, a model has surfaced which would tremendously simplify the tax analysis for e-commerce transactions. While the urge for simplicity is certainly both a reasonable and understandable goal, the trend is flawed. This trend tremendously favors the country of residence, which is the country where the enterprise resides. The U.S., a dominating presence in cyberspace with an overwhelming majority of all commercial web sites, would be the primary beneficiary of this trend if it were fully embraced and adopted. This benefit would be at the direct expense of countries around the world, particularly capital-importing developing countries. This paper proposes that as a solution, software agents should be included in the notion of

171. See *Business and Consumer Segments Chart*, *supra* note 63.

permanent establishment, at least during this important time of Internet growth. This plan will potentially benefit the U.S. in the long run, as well as enhance the social and economic wealth of developing countries during the plan's implementation.